11001

IMPROVE OPERATIONS PRODUCTIVITY

Columbia Falls Cell Magnetics

The purpose of this activity was to evaluate the conversion of electrical bus to ASV design at Columbia Falls. Five pots were converted and evaluated. Results are very encouraging. The test pots are operating at 60 millivolts less than normal with two-inch lower metal pads. This represents a significant improvement in energy usage. Columbia Falls is expanding the test to ten pots in 1984 to substantiate the preliminary results.

Influence of LiF and Bath Ratio on Properties of Hall Cell Electrolytes

Lithium fluoride (LiF) additions at 1, 3, and 5% were made in melts of CR 1.0, 1.25, and 1.5 with 4% CaF_2 and 3.5% Al_2O_3. The findings revealed liquidus temperature had reasonable agreement with published models at high CR ratio, but required a new model at low ratios. The conductivity followed a similar trend to liquidus temperature, which required a new model be developed for low CR ratios. The greatest benefit of LiF is achieved at higher CR ratios. The use of LiF at CR ≤ 1.20 probably would not provide enough benefit to justify the added operational difficulties.